



U.S. Department of Justice

*United States Attorney
Eastern District of New York*

TAD/ABK
F. #2015R00760

271 Cadman Plaza East
Brooklyn, New York 11201

June 2, 2017

By ECF and Hand Delivery

The Honorable Dora L. Irizarry
Chief United States District Judge
United States District Court
225 Cadman Plaza East
Brooklyn, New York 11201

Re: United States v. Erdal Kuyumcu
Docket No. 16-CR-308 (DLI)

Dear Chief Judge Irizarry:

In accordance with the Court's May 10, 2017 Order, the government respectfully submits a summary of the facts proven by a preponderance of the evidence at the June 1-2, 2017 hearing, held pursuant to United States v. Fatico, 603 F.2d 1053 (2d Cir. 1979) (the "Fatico hearing").

I. Background

On June 14, 2016, the defendant pled guilty to a single-count Information charging a violation of the International Emergency Economic Powers Act ("IEEPA"), Title 50, United States Code, Sections 1705(a) and 1705(c). The Information charges that between January 1, 2013, and March 1, 2016, the defendant, together with others, conspired to export from the United States to Iran one or more items under the jurisdiction of the United States Department of Commerce ("DOC"), specifically, a metallic powder with the chemical makeup CoNiCrAlY (the "Cobalt Powder"), without having obtained the required license from the United States Treasury Department's Office of Foreign Assets Control ("OFAC"), contrary to Title 31, Code of Federal Regulations, Sections 560.203, 560.204, 560.206 and the IEEPA. In March 2013 and again in July 2013, the defendant exported the Cobalt Powder to a Turkey-based co-conspirator, knowing the powder was destined for Iran. (Presentence Investigation Report, dated Oct. 3, 2016 ("PSR") ¶¶ 9-30.)

At his plea allocution, the defendant admitted that in March and July of 2013, he shipped the Cobalt Powder to his Turkey-based co-conspirator, Mehmet Cingi (“Cingi”), the owner of Era Metalurji in Turkey.¹ (Plea Tr. at 53, 56-57.) The defendant, however, claimed he was not “fully aware” until the second shipment in July 2013 (the “July 2013 shipment”) that the Cobalt Powder was going to be transshipped from Turkey to Iran. (*Id.* at 57.) The defendant testified that he knew Iran was embargoed and that “it’s not allowed to do any business transaction and . . . sell directly or resell directly to Iran.” (*Id.*) The defendant explained he lacked “the courage” to stop the July 2013 shipment. (*Id.*) The parties and the Court agreed that the defendant’s plea allocution was legally sufficient to establish his guilt on the IEEPA violation charged in the Information. (*Id.* at 59.)

After the PSR was issued on October 3, 2016, the defendant objected by letter dated October 11, 2016. (“Def. PSR Ltr.”) First, the defendant objected to any statements in the PSR indicating that he knew the March 2013 shipment was ultimately destined for Iran. (*Id.* at 2-3.) The defendant claimed to believe the March 2013 shipment went to a company in Greece, which company would use the Cobalt Powder to coat industrial engines in Saudi Arabia. (*Id.* at 3.) Second, the defendant objected to any statements in the PSR indicating that the Cobalt Powder had potential military, nuclear or missile applications. Specifically, the defendant contended: “there is absolutely no basis in scientific fact for the Government’s position that this spray has nuclear or weapons usage. Nor is there any scientific basis for the Government’s position that it is effective in coating military airplane blades.” (*Id.* at 1-2.)

On January 11, 2017, the parties appeared before the Court for sentencing. Noting the unresolved factual dispute about the number of occasions on which the defendant knowingly caused the Cobalt Powder to be exported to Iran and the potential applications of the Cobalt Powder, the Court ordered a Fatico hearing.² (Minute Entry, dated Jan. 11, 2017.)

¹ On May 26, 2017, Era Metalurji and Cingi were added to the DOC’s Entity List. 82 Fed. Reg. 24242, 24244. The Entity List (15 C.F.R., subchapter C, part 744, Suppl. No. 4), identifies entities and other persons “reasonably believed to be involved, or to pose a significant risk of being or becoming involved, in activities contrary to the national security or foreign policy interests of the United States.” *Id.* at 24234. The Export Administration Regulations (“EAR”) impose “additional license requirements on, and limit[] the availability of most license exceptions for exports, reexports, and transfers . . . to those listed.” *Id.* at 24243.

² Neither of the factual issues raised by the defendant directly bear upon the applicable base offense level of 26 under the United States Sentencing Guidelines (the “Guidelines” or “U.S.S.G.”), pursuant to U.S.S.G. § 2M5.1(a)(1)(B), which remains the same irrespective of (i) the number of times the defendant exported the Cobalt Powder during the charged timeframe, and (ii) the actual end-use of the Cobalt Powder. Instead, the disputed facts bear upon sentencing factors under 18 U.S.C. § 3553(a). Additionally, to the extent the Court finds that the defendant failed to accept responsibility in his plea allocution, the Court may decline to reduce his total offense level under U.S.S.G. §§ 3E1.1(a) and (b). The Court may also enhance the defendant’s sentence if the Court specifically finds that he “willfully

Two witnesses for the government testified at the Fatico hearing. David T. Flynn, the Program Director for Export Control Review and Compliance in the Office of Nonproliferation and Arms Control, at the United States Department of Energy's National Nuclear Security Administration, testified about the potential military, nuclear, and missile applications of the Cobalt Powder. The Court qualified Mr. Flynn an expert on United States export licensing policy with regard to the gas turbine industry. (Fatico Tr. at 29.)³ Thomas F. Smith, a Special Agent with the Office of Export Enforcement, at the DOC's Bureau of Industry and Security, testified about the investigation of the defendant, including emails and documents obtained pursuant to subpoenas and search warrants.⁴ Douglas H. Maxwell testified for the defense as an expert witness on the gas turbine material and process industry. (Id. at 171.)

II. Legal Standard

For purposes of sentencing, disputed facts need only be established by a preponderance of the evidence. See, e.g., United States v. Lee, 818 F.2d 1052, 1057 (2d Cir. 1987)); United States v. Roland, 748 F.2d 1321, 1327 (2d Cir. 1984). Under the preponderance standard, the finder of fact must "believe that the existence of a fact is more probable than its nonexistence before (she) may find in favor of the party who has the burden to persuade the (judge) of the fact's existence." United States v. Fatico, 458 F. Supp. 388,

obstructed or impeded, or attempted to obstruct or impede, the administration of justice with respect to the . . . prosecution[] or sentencing of the instant offense of conviction, and . . . the obstructive conduct related to . . . the defendant's offense of conviction and any relevant conduct" U.S.S.G. § 3C1.1 (calling for two-level enhancement).

³ Mr. Flynn has approximately 37 years of professional experience, in both the private and government sectors. In his current role at the Department of Energy, Mr. Flynn is responsible for, among other things, (i) directing teams of experts that conduct technical reviews of approximately 6,000 U.S. export license applications per year, and (ii) providing technical analysis for items that may be subject to sanctions laws and regulations. (Fatico Tr. at 25-26.) Mr. Flynn previously served as Export Administrator for the National Aeronautics and Space Administration ("NASA"). (Id. at 28.) At NASA, Mr. Flynn was the "ultimate federal official" responsible for NASA's export control compliance. Over his professional career, Mr. Flynn has become familiar with gas turbines, their component parts and turbine coatings. (Id. at 27.) In May 2008, Mr. Flynn was qualified as an expert witness regarding export licensing policy with regard to nuclear technologies at the trial of United States v. Alavi, 07-CR-429 (D. Ariz.), which involved the unlawful export of computer software to Iran.

⁴ Special Agent Smith has been employed by the DOC for six years and has prior federal law enforcement experience. (Fatico Tr. at 69-70.) As a Special Agent, he is responsible for, among other things, investigating illegal exports of "dual use" items, that is, products that have both a military and commercial use. (Id. at 70.)

403 (E.D.N.Y.1978), aff'd, 603 F.2d 1053 (2d Cir.1979) (“Quantified, the preponderance standard would be 50+% probable.”).

III. Argument

A. The Government Has Proven by a Preponderance of the Evidence that the Defendant Knew the March 2013 Shipment Was Destined for Iran

The government has proven by a preponderance of the evidence that the defendant knew the March 2013 shipment was destined for Iran. The evidence consisted of numerous emails between the defendant, Cingi, and an Iran-based procurement agent. In these emails, the defendant repeatedly referred to the ultimate recipient of the Cobalt Powder as “the neighbor” and “the neighbor country.” During his post-arrest interview, the defendant told an FBI agent that “neighbor” meant Iran. (GX 200 at 139.)

On or about January 28, 2013, an Iran-based procurement agent whose name appeared in emails as “Ardalan Dana” (“Dana”) sent an email to Era Metalurji, the company operated by Cingi. (PSR ¶ 9.) Dana purported to represent a company based in Tehran, Iran (the “Iranian Company”), and he asked Era Metalurji for a “competitive” price quote for 1,500 kilograms of Sulzer Metco (“Sulzer”) thermal spray powder AMDRY 9954, indicating that “delivery time for first part (300 kg) is important for us.” (*Id.*) AMDRY 9954 is a brand of the Cobalt Powder. (Fatico Tr. at 63, 184-86.)

On February 19, 2013, the defendant sent Cingi a link to AMDRY 9954 and attached a product specification sheet for identical powders, including PAC 9950AM, manufactured by Powder Alloy Corporation (“PAC”) in the United States. (Fatico Tr. at 89; GX 7.) On February 20, 2013, Cingi sent the product specifications to Dana, indicating that AMDRY 9954 and PAC 9950AM were equivalent. (Fatico Tr. at 90-91; GX 8.) That same day, Dana sent an email to Cingi asking for confirmation that PAC9950AM and AMDRY 9954 had the same characteristics, advising that the products would be tested for any deviation, and inquiring about shipping details. (Fatico Tr. at 91; GX 8.) Cingi forwarded Dana’s February 20, 2013 email to the defendant, and the defendant informed Cingi that he would “copy and paste [Dana’s] email . . . and send it to PAC” to “try to get a confirmation.” (Fatico Tr. at 92; GX 9.) The same day, the defendant cut and pasted the email from Dana and sent it to a PAC representative, removing any reference to Dana’s name. (Fatico Tr. at 93; GX 11.) The defendant told PAC that the email was from his “customer.” (GX 11.)

The PAC representative responded to the defendant asking for additional information from the defendant’s “customer” about the “chemistry and sizing” of the Sulzer powder the customer had been using. (GX 11.) The defendant forwarded the email from PAC to Cingi, who forwarded it to Dana. (Fatico Hearing at 94; Tr. GX 11, 12.) Dana responded to Cingi, stating that the Cobalt Powder “will be used in LPPS (Low pressure plasma spray) process for coating of Turbine blades.” (Fatico Tr. at 95; GX 12.) Cingi forwarded the entire email chain back to the defendant. Notably, the email from Dana that Cingi forwarded to the defendant was time stamped: 19:06:17 +0330, the time zone for

Tehran, Iran. (Fatico Tr. at 96; GX 99.) The defendant then emailed the PAC representative, again removing any reference to Dana, stating that his “customer” had indicated that the powder would be used to coat turbine blades. (Fatico Tr. at 97; GX 13.)

On February 20, 2013, the PAC representative asked the defendant for the particular specification or item on which the powder would be used. (Fatico Tr. at 98; GX 13.) The defendant forwarded PAC’s February 20, 2013 email to Cingi (GX 13), stating: “Brother Mehmet, below is the email from Pac . . . For the neighbor country, they make the spray in this certification. We need an answer.” (Fatico Tr. at 98; GX 13A.)

The defendant repeatedly used the terms “neighbor” and “neighbor country” in emails with Cingi and others. During his Mirandized, post-arrest interview, the defendant admitted that “neighbor” meant “Iran.” (Fatico Tr. at 82-84; GX 200 at 139.)

Q: Um, in all those emails you were discussing neighbor right you were discussing a lot of coded with rush (PH)

A: Yeah, yeah, huh?

Q: Is that a coded language you used?

A: No, no, no, no, no, no.

Q: So you so it’s not a—so when you refer to them as neighbor and they’re on the email.

A: Yeah, eh.

Q: Who are you referring to when you say neighbor?

A: Neighbor as our region who um, whoever is a neighbor...

Q: Yeah

A: With Greece

Q: In this particular situation is

A: Yeah

Q: You knew where it was going so in this in these emails in discussion about

A: Yeah, yeah it was Iran.

(GX 200 at 139.)

In addition to admitting that “neighbor” was code for “Iran,” the defendant repeatedly used the term “neighbor” in contexts that only made sense if “neighbor” meant “Iran.” For example, on February 15, 2013, shortly before the defendant began soliciting quotes for the Cobalt Powder, Cingi told the defendant that he would “flying out to the neighbor’s for three days, Middle East.” (Fatico Tr. at 81; GX 4.) The defendant responded: “[g]ood luck at the neighbors.” (*Id.*) Cingi was based in Turkey. (Fatico Tr. at 80.) If, as the defendant initially claimed during his post-arrest interview, “neighbor” meant Greece, this would not make sense in the above-referenced emails, where Cingi indicated “neighbor” meant a country in the Middle East.

After the Cobalt Powder was transshipped to Iran via Turkey in March 2013, the defendant followed up on the sale of the Cobalt Powder to the “neighbor.” On April 16, 2013, approximately one month after the defendant had purchased the Cobalt Powder from PAC, and around the time when the Iranian Company would have received the Cobalt Powder, the defendant emailed an Era Metalurji employee, asking, “have you heard anything from the neighbor? :)” (GX 72.)

Several days later, on April 21, 2013, Cingi asked the defendant to find out whether a German company “is on the black list due to its relationship with the neighbor[.]” (Fatico Tr. at 113-14; GX 73.) On April 22, 2013, the defendant responded: “I don’t have any idea where I could find the black list. I think [the German company] is wrong. I researched and couldn’t find anything like that.” (*Id.*) In the same email, the defendant asked: “Do you have any information from the neighbor on the powder? I am eagerly awaiting[.]” (*Id.*)

The email concerning the German company on the “black list”—likely a reference to DOC’s Entity List—confirms that “neighbor” means Iran. Cingi was based in Turkey. Turkey is bordered by eight countries: Armenia, Azerbaijan, Bulgaria, Georgia, Greece, Iran, Iraq and Syria. However, the only countries that border Turkey and could result in a company being put on a “black list due to its relationship with [the country]” are Iran and Syria. In 2013, Syria was engulfed in a civil war, and the defendant does not claim to have believed that the March 2013 shipment was destined for Syria. He claims to have believed it was destined for Greece. (Def. PSR Ltr. at 2.) If the defendant truly believed the March 2013 shipment was going to Greece, there would be no reason to refer to Greece as the “neighbor” instead of “Greece.” More importantly, the email about a German company being “on the black list due to its relationship with the neighbor” would make no sense if “Greece” were substituted for “neighbor.” Greece and Germany are part of the European Union, and countries within the EU enjoy free trade with one another, a fact that the defendant was surely aware of being of German national origin. (PSR ¶ 54.)

The government’s proof that the defendant knew the March 2013 shipment was destined for Iran does not rest solely on the meaning of “neighbor.” The government also presented evidence at the Fatico hearing that contradicts the defendant’s claim that he

believed the March 2013 shipment was destined for Greece. The defendant solicited simultaneous quotes for the same quantity of Cobalt Powder from Sulzer and PAC. In a February 19, 2013 email to Sulzer, the defendant stated the Cobalt Powder “is going to ship to my warehouse in New York, I will stock it. [I] am going to ship it to Greece.” (GX 26.) When pressed by Sulzer on February 22, 2013, for the name of the end-user, the defendant appears to have provided the name “Pyrogenesis,” a Greek company. (GX 27.) On the same date, when asked by PAC for the identity of “your customer for the material,” the defendant responded: “the material is going to turkey, Istanbul.” (GX 23, 24.) As of February 22, 2013, the defendant had received only one request to obtain a price quote for 300 kg (800 lb)⁵ of the Cobalt Powder, and that request came from Cingi, on behalf of Dana. (GX 8, 20, 26). Since there was only one order for 800 pounds of the Cobalt Powder, the defendant cannot have intended to ship that amount to both Turkey and Greece. The only plausible explanation why the defendant would tell one company that the Cobalt Powder was going to Greece and another that it was going to Turkey was that he was lying to conceal that the true end-user was a company in Iran. This interpretation is supported by later emails between the defendant and Cingi. On March 8, 2013, the PAC representative asked the defendant whether he had “had the chance to fill out the [purchase order] that you sent me . . . with the name of the company you are selling this material to?” (GX 45.) The defendant immediately forwarded the email to Cingi, asking:

Brother, can you tell me the name of a company? A friend company with a website that uses the material, would be great. I’d appreciate it if you could read the email below.

(GX 46.)

On March 11, 2013, the defendant emailed Cingi again, stating: “Today, please don’t forget to give me the name of a company that can be used as the end user.” (GX 48.) The defendant’s word choice is telling. He did not ask for the name of the company that *was* the end-user; instead, he asked for “the name of a company that *can be used* as the end user.” (*Id.*) On the same date, Cingi provided the name: “KMS Kardesler machine ltd.” (*Id.*)

If, as the defendant claimed in his letter objecting to the PSR, he had been “misled” by Cingi “into believing that the first [March 2013] shipment was headed to a Greek company, Pyrogenesis,” (Def. PSR Ltr. at 2), then there is no plausible explanation why the defendant would tell Sulzer that the powder was going to Pyrogenesis in Greece and another that the powder was going to KMS Kardesler in Turkey. The only plausible

⁵ In a series of emails on February 23, 2013, Dana asked the Era Metalurji’s representative, in sum and substance, why Era Metalurji was referring to 800 pounds when the order was for 300 kilograms of the Cobalt Powder. Era Metalurji’s representative responded that 800 pounds was equivalent to approximately 363 kilograms and that “US companies use . . . pound [sic] for the weight.” Dana then changed the order to 670 pounds of the Cobalt Compound, explaining that “[o]ur order for 300kg So , please place the order for 670 lb (approx. 304 kg).” (GX 29.)

explanation for the defendant's obfuscation is that he knew that the Cobalt Powder was destined for Iran.

It makes sense that the defendant sought to do business with Iran, which represented a potentially large source of business revenue for the defendant and his co-conspirators. On February 28, 2013, Cingi forwarded the defendant an email with the subject line "Export opportunity to Iran" offering the opportunity to "gain a place in a difficult but potential market such as Iran." (GX 32.) The email solicitation noted that trade between Turkey and Iran had "surpassed 22 billion dollars." (Fatico Tr. at 106; GX 32.)

Ultimately, the defendant procured the Cobalt Powder for the March 2013 export from PAC. As a result of his misrepresentations to PAC that the end-user was in Turkey, the defendant also caused a false statement to be made on an export declaration filed by the U.S.-based shipper, which in turn affirmed that the "ultimate destination" was Turkey. (Fatico Tr. at 110; GX 70.) The shipper's declaration notes that the Cobalt Powder was exported from the United States on March 22, 2013. (GX 70.)

The government has proven by a preponderance of the evidence that the defendant knew the March 2013 shipment was destined for Iran. That fact is clearly supported by the foregoing contemporaneous emails sent and received by the defendant, as well as his statements to law enforcement agents upon his arrest.

B. The Defendant Knew the July 2013 Shipment Was Destined for Iran

It is undisputed that the defendant knew that the shipment of Cobalt Powder on July 3, 2013 was destined for Iran. (Fatico Tr. at 118-19; Plea Tr. at 56-58.) The defendant admitted at his plea allocution that "at the time" he facilitated the July 2013 export of the Cobalt Powder from an American company to Era Metalurji, he was "aware" that the "ultimate destination of that cobalt would be Iran[.]" (*Id.* at 58.)

After the defendant sent the Cobalt Powder to Era Metalurji in Turkey, Era Metalurji sent the Cobalt Powder to the Iranian Company on July 11, 2013. (Fatico Tr. at 120; GX 84A.) On July 12, 2013, Era Metalurji received a letter-sized express courier envelope sent from Isfahan Alloy Steel, located at KM 45, Mobarakeh, Esfahan, Iran.⁶ (Fatico Tr. at 120-21; GX 202, 213.) This is the same exact address as the Seventh of TIR complex, which has been designated by OFAC as a Specially Designated National and Blocked Person ("SDN").⁷ The Seventh of TIR Complex is recognized as being involved in

⁶ Isfahan is commonly translated into English as Esfahan. Mobarakeh is a county within the Iranian province of Isfahan. See The World Factbook, available at <https://www.cia.gov/library/publications/the-world-factbook/geos/ir.html>; National Geospatial-Intelligence Agency, GeoNames Search, available at <http://geonames.nga.mil/namesgaz/>.

⁷ United States citizens and permanent residents are generally prohibited from doing business with SDNs. See *Cortez v. Trans Union, LLC*, 617 F.3d 688, 697 (3d Cir. 2010)

Iran's nuclear program. (Fatico Tr. at 124; GX 210.) The temporal proximity between Era Metalurji's transshipment of the Cobalt Powder to a procurement agent in Iran on July 11, 2013, and Isfahan Alloy Steel's correspondence with Era Metalurji the very next day, strongly suggests that the Cobalt Powder was shipped to the Seventh of TIR Complex. (Fatico Tr. at 123-24; GX 214.)

C. The Defendant Sought Further Business Opportunities with Iran

After the July 2013 shipment, the defendant sought to export additional quantities of the Cobalt Powder to Iran. On August 13, 2013, the defendant received an email from PAC advising that it had another 330 pounds (approximately 150 kilograms) of the Cobalt Powder remaining in its inventory. (Fatico Tr. at 127; GX 92.) On August 21, 2013, the defendant emailed Cingi and others at Era Metalurji asking whether there were "any developments on the powder for the neighbor?" (GX 91.) On October 29, 2013, the defendant emailed an Era Metalurji employee asking whether the employee had been "able to talk to the neighbor" about additional powders available through PAC. (Fatico Tr. at 128; GX 95.) An Era Metalurji employee responded, stating he had spoken with "the neighbor" that day, and that the neighbor wanted a discount or otherwise would cancel an order for "150kg of materials[,] apparently referring to the 330 pounds of Cobalt Powder available through PAC. (Fatico Tr. at 128-29; GX 94.)

Thereafter, in 2014, the defendant exchanged emails with Burcu Altin, an Era Metalurji employee, about a man named Oguz whom the defendant believed Altin should meet because the Oguz "is on good terms with the neighbor . . . He is sending terrific orders." (GX 216.) Altin asked for the introduction, and she and Oguz began corresponding about metals. (Id.)

The government also presented evidence that the defendant continued to do business with Iran in 2016. On March 1, 2016, the date the defendant was arrested, FBI agents asked him: "just tell us why you think you're here today." The defendant responded, in sum and substance, that he had exported material from Cannon Muskegon in the United States to a company called Epsilon in Turkey, and he had a "suspicion" that "there are some companies that are reselling this alloy to, to Iran." (GX 200 at 7.) The government presented documentary evidence showing that in February 2016, defendant exported over 23,000 kilograms of unwrought nickel alloy⁸ to his own company, Global Metallurgy, in Turkey, in response to a purchase order from Epsilon. (GX 207.) After he was arrested, the defendant sought to "bring back" the nickel alloy to the United States "because of doing further investigation regarding our customer that the materials are going to sold to." (GX 207.) Documents obtained from the freight forwarder for the nickel alloy shipment show

(describing series of federal statutes, regulations and executive orders that prohibit dealings with SDNs).

⁸ The nickel alloy is also referred to in shipping documents as "100% virgin vacuum induced refined ingot." (GX 207.)

that the shipment was removed from the port in Turkey and taken to Iran. (Fatico Tr. 136-37.)

D. The Cobalt Powder has Military, Missile and Nuclear Applications

The government has proven by a preponderance of the evidence that the Cobalt Powder has military, missile and nuclear applications.

The Cobalt Powder is a thermal spray powder that is composed of an alloy of cobalt, nickel, chromium, aluminum, and yttrium. (Fatico Tr. at 32.) There are various brand names of the Cobalt Powder, including AMDRY 9954 and PAC 9950AM. AMDRY 9954 and PAC 9950 have “identical” chemical compositions,” despite having “a very minor difference in the powder particle size.” (*Id.* at 185, 186.) Indeed, it is “normal” in the gas turbine industry for more than one manufacturer to produce the same thermal spray powder. (*Id.* at 64.)

Both AMDRY 9954 and PAC9950AM are designed to produce thermal spray coatings for surface protection of gas turbine components. (*Id.* at 35.) Gas turbines are a type of internal combustion engine, meaning that the combustion happens inside the engine itself. Gas turbines are used to fly aircrafts, propel marine vessels, and to generate power in the industrial context. (*Id.* at 32; GX 100.) Coatings on gas turbines are necessary because turbines generate high levels of temperature and hot sulfuric acid, such that underlying metal parts can melt or be damaged. (Fatico Tr. at 35.) The powder coating protects the underlying metal from the high temperatures and corrosive environments in these engines, allowing for increased longevity and durability and decreased metal “fatigue” or weakening. (*Id.* at 39, 65, 178, 180-81, 183.)

The Cobalt Powder is applied using a high-velocity oxy-fuel spraying device. (*Id.* at 36; GX 101, 102.) The Cobalt Powder is “fine” and results in a smooth finish when applied. (Fatico Tr. at 52.) Multiple layers of the Cobalt Powder can be applied to a surface, and adhesion between layers is achieved by abrading or “roughing up” the surface of a layer coating and then applying additional layers. (*Id.* at 39, 52, 58.)

The Cobalt Powder can be used to coat a broad range of gas turbines, including military aircraft engines. Certain manufacturers of original equipment (“OEMs”) specify use of the Cobalt Powder on their gas turbines to achieve optimal safety, efficacy, performance or longevity. (*Id.* at 40-41.) The Cobalt Powder can be used as a coating for military jet engines. (*Id.* at 42, 44, 187.) The defendant’s expert, Douglas Maxwell, testified that while the Cobalt Powder would not be the “best” material for military aircrafts, the Cobalt Powder can be used on military jet engines. (*Id.* at 187.)

The government’s expert, David T. Flynn, identified at least two military jet engines on which the Cobalt Powder can be used: the C-5 military cargo plane, which uses a

General Electric CF-6 jet engine; and the F-4 Phantom, a military bomber and fighter jet,⁹ which uses the General Electric J79 jet engine. The F-4 Phantom is employed by the Iranian Air Force, has the ability to carry approximately 18,000 pounds of armament, and reaches a top speed of approximately 1,400 miles per hour. (Fatico Tr. at 44, 76-77.) The F-4 Phantom is capable of carrying a nuclear weapon. (Id. at 44.)

The Cobalt Powder is not formally classified as having specific nuclear or military “end-use.” Items that have a specific or exclusive nuclear, military or missile end-use are subject to the International Traffic and Arms Regulations. (Id. at 47.) Items such as the Cobalt Powder that have both a commercial and military end-use are instead designated as “dual-use” items, pursuant to the EAR, and can be employed by a military end-user, such as an army or intelligence organization of a foreign country. (Id. at 31.)¹⁰ The Cobalt Powder has nuclear, military and missile applications because it can be used to coat gas turbine engines that power military jets, which, in turn, can carry nuclear weapons and missiles. (Id. at 44, 46-48, 76-77.) In addition, the Cobalt Powder can be used to coat gas turbine engines used as the backup power supply for nuclear power plants. (Fatico Tr. at 47, 57.)

Mr. Flynn opined that, in light of the trade embargo against Iran, there is a “high possibility” that any items going to Iran that have a dual-use “would have the potential for diversion.” (Id. at 48.) Iran—which is the “foremost” state sponsor of terrorism according to the U.S. State Department—has a history of diverting dual-use items and pursuing and developing its own nuclear and missile technologies and capabilities. (Id. at 31, 48; GX 2.) For this reason, United States export-control regimes scrutinize exports to Iran not solely for “potential use or probable [use] . . . , but what would be the worst potential use.” (Id.)

Finally, dual-use EAR99 items illegally shipped to Iran are contrary to the national security interests of the United States. For example, in 2006, dual-use electronics that had been illegally transshipped to Iran were recovered from improvised explosive devices employed in the battlefield of Iraq and Afghanistan, where the United States has armed forces. (Fatico Tr. at 79.) Moreover, dual-use items as seemingly innocuous as water-filtration systems have been illegally diverted for use at nuclear facilities in Iran. (Id.)¹¹ Thus, because there is limited visibility into Iran, there is no certainty how items illegally acquired by Iran may be used or misused. (Id. at 71.)

⁹ A bomber is an aircraft that can be used to drop bombs. (Fatico Tr. at 43.)

¹⁰ Dual-use items are classified by the EAR as “EAR99,” meaning that the item is subject to general export restrictions, and not specifically listed using an Export Control Classification Number on the Commerce Control List. (Id. at 78-79.)

¹¹ There is no evidence whatsoever that the Cobalt Powder has any medical use, such as in the manufacture of medical devices implanted into the human body. This is relevant because when interviewed by a DOC inspector as part of a post-shipment verification, Cingi

IV. Conclusion

The government has proven by a preponderance of the evidence that the defendant was aware that the March 2013 shipment was destined for Iran and that the Cobalt Powder has military, missile and nuclear applications.

Respectfully submitted,

BRIDGET M. ROHDE
Acting United States Attorney

By: /s/ Ameet B. Kabrawala
Tiana A. Demas
Ameet B. Kabrawala
Assistant U.S. Attorneys
(718) 254-6116/6001

cc: Patrick A. Mullin, Esq. (by email)
Counsel to Defendant

Mr. John Joseph Lanigan (by email)
U.S. Probation Officer

claimed the Cobalt Powder was exported from Turkey to Iran to “manufacture medical implants.” (GX 215 at 4.) The Cobalt Powder cannot be used to manufacture medical devices because the powder is an irritant and must be handled safely, using protective facemasks, gloves and a respirator. (Fatico Tr. at 51.)